We claim:

1. A process for producing a microroughness on a surface, the process which comprises:

forming, in a single process step, semiconductor grains directly from a process gas such that the semiconductor grains are distributed on a surface for producing a microroughness on the surface.

2. The process according to claim 1, which comprises:

providing the semiconductor grains as grains selected from the group consisting of Si grains and Ge grains; and

providing the process gas as a gas selected from the group consisting of SiH_4 or GeH_4.

3. The process according to claim 1, wherein the step of forming the semiconductor grains is performed in a temperature range extending from 500 degrees Celsius to 600 degrees Celsius.

4. The process according to claim 1, wherein the step of forming the semiconductor grains is performed at a pressure between 13 Pascal and 80 Pascal.

5. The process according to claim 1, wherein the step of forming the semiconductor grains is performed in a period lasting between 5 minutes and 60 minutes.

6. The process according to claim 1, which comprises using a material selected from the group consisting of an oxide, a nitride and a Si-substrate for providing the surface.

7. The process according to claim 6, which comprises precleaning the Si substrate.

8. The process according to claim 7, wherein the precleaning step includes at least one cleaning step selected from the group consisting of a piranha cleaning, an RCA cleaning and a HF-dip cleaning.

9. The process according to claim 1, which comprises providing the process gas with an H_2 dilution in a range from 1:20 to 1:0.2.

10. The process according to claim 1, which comprises providing the process gas with an N_2 dilution in a range from 1:100 to 1:5.

11. A process for producing a microroughness on a surface, the process which consists of:

forming semiconductor grains distributed on a surface for

producing a microroughness on the surface by forming the

semiconductor grains directly from a process gas.

Add A1